

EOSDIS IV&V
Monthly Status Report
For the Period 12/1/97 to 12/31/97
(Deliverable 0201)

January 15, 1998

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1. PERFORMANCE INFORMATION

1.1 Contract Organization Chart

Exhibit 1-1 illustrates the current organizational structure of the EOSDIS IV&V team. The approximate number of personnel assigned to each technical task during December is also indicated.

1.2 Programmatic Information

a) Key Recent Accomplishments

- Submitted monthly 533 and Status Reports.
- Completed ESDIS-Intermetrics executive management meeting to redefine Integration & Test roles and responsibilities.
- Completed ESDIS-IV&V management meeting to redefine and improve ESDIS, ECS, IV&V coordination.
- Ensured on-time delivery of contract deliverables as indicated in Exhibit 1-2.
- Individual training on various technical subjects was completed at the GSFC Learning Center and through Computer Based Training (CBT) classes which were provided by Intermetrics.

b) Planned Activities

- Complete draft of Work Element 5, ECS Test Support for AMP modification.
- Continue individual training on various technical subjects at the GSFC Learning Center and through internal Intermetrics CBT classes.
- Continue tracking progress against the Master Milestone Chart as illustrated in Exhibit 1-3.

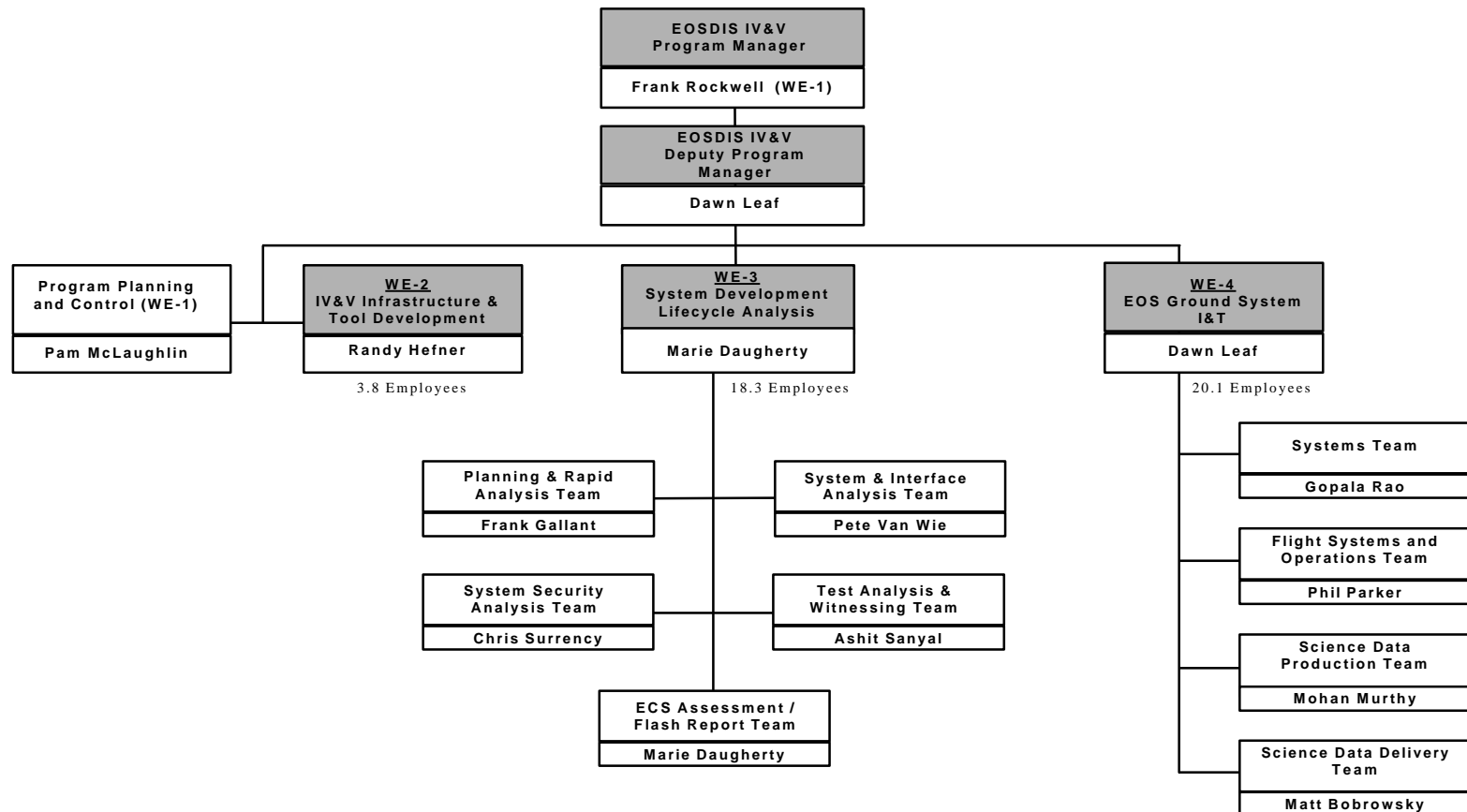


EXHIBIT 1-1: EOSDIS IV&V Organization

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Expected Date Due	Dependency	Milestone/ Deliverable	Task #	Status*	Comments
12/15/97	15 th of month	NASA FinancialMgmt Rpt 533M	WE-1	C	12/15/97
12/15/97	15 th of month	NASA FinancialMgmt Rpt 533Q	WE-1	C	12/15/97
12/15/97	15 th of month	NASA Monthly Status Report	WE-1	C	12/15/97
12/16/97	Periodic	IV&V Findings Review	WE-1	C	12/16/97
12/97	RTM + 10 working days	Integrated Requirements Database (IRDB) Reports	WE-2	C	12/30/97
12/5/97	Monthly	November ECS Flash Report	WE-3	C	12/5/97
12/10/97	Periodic	IV&V Tools Demonstration	WE-2	C	12/10/97
12/11/97	Periodic	Analysis of AT test procedures for Drop 1	WE-3	C	12/11/97
12/12/97	Periodic	Capabilities toRbR mapping results - Draft	WE-3	C	12/12/97
12/12/97	Periodic	McCabe evaluation results for the ECS CLS Subsystem	WE-3	C	12/11/97
12/97	CCB or ICWG mtg - 1 week	CCR Impact Analysis Forms	WE-3	C	Ref. Exhibit 1-4 p. 7
12/30/97	At monthly ICWG	ICWG Open Interface Issues Summary Report	WE-3	C	12/30/97
12/97	On-site test + 10 working days	EOSDIS Network Vulnerability Assessment Report - EBNet	WE-3	C	12/19/97
12/97	Periodic	EGS I&T Program Test Matrix	WE-4	C	12/01/97
12/97	Periodic	EGS I&T Program Test Package (Updates)	WE-4	C	12/5/97
12/97	Periodic	EGS Test Summaries (viaE-Mail)	WE-4	C	12/31/97
January 1998					
1/15/98	15 th of month	NASA Financial Mgmt Report 533M	WE-1	IP	
1/15/98	15 th of month	NASA Monthly Status Report	WE-1	IP	
1/98	RTM + 10 working days	Integrated Requirements Database (IRDB) Reports	WE-2	O	
1/5/98	Monthly	December ECS Flash Report	WE-3	C	1/5/98
1/9/98	Periodic	Analysis of SV/AT test procedures for Drop 2&3 for ECD	WE-3	C	1/8/98
1/12/98	RTM + 10 working days	12/24 ECS RTM quantitative TAM (0811)	WE-3	C	1/12/98
1/16/98	Periodic	FOS Document Review TAM	WE-3	IP	
1/16/98	Periodic	ECS CM Practices Review	WE-3	IP	
1/30/98	On Site Test +10 working days	TRMM: Mission Operations (0817)	WE-3	O	
1/98	Periodic	EGS I&T Program Test Matrix	WE-4	C	1/5/98
1/98	Periodic	EGS I&T Program Test Package (Updates)	WE-4	C	1/5/98
1/98	Periodic	EGS Test Summaries (viaE-Mail)	WE-4	IP	1/30/98

* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

EXHIBIT 1-2: Status of Milestones/Deliverables

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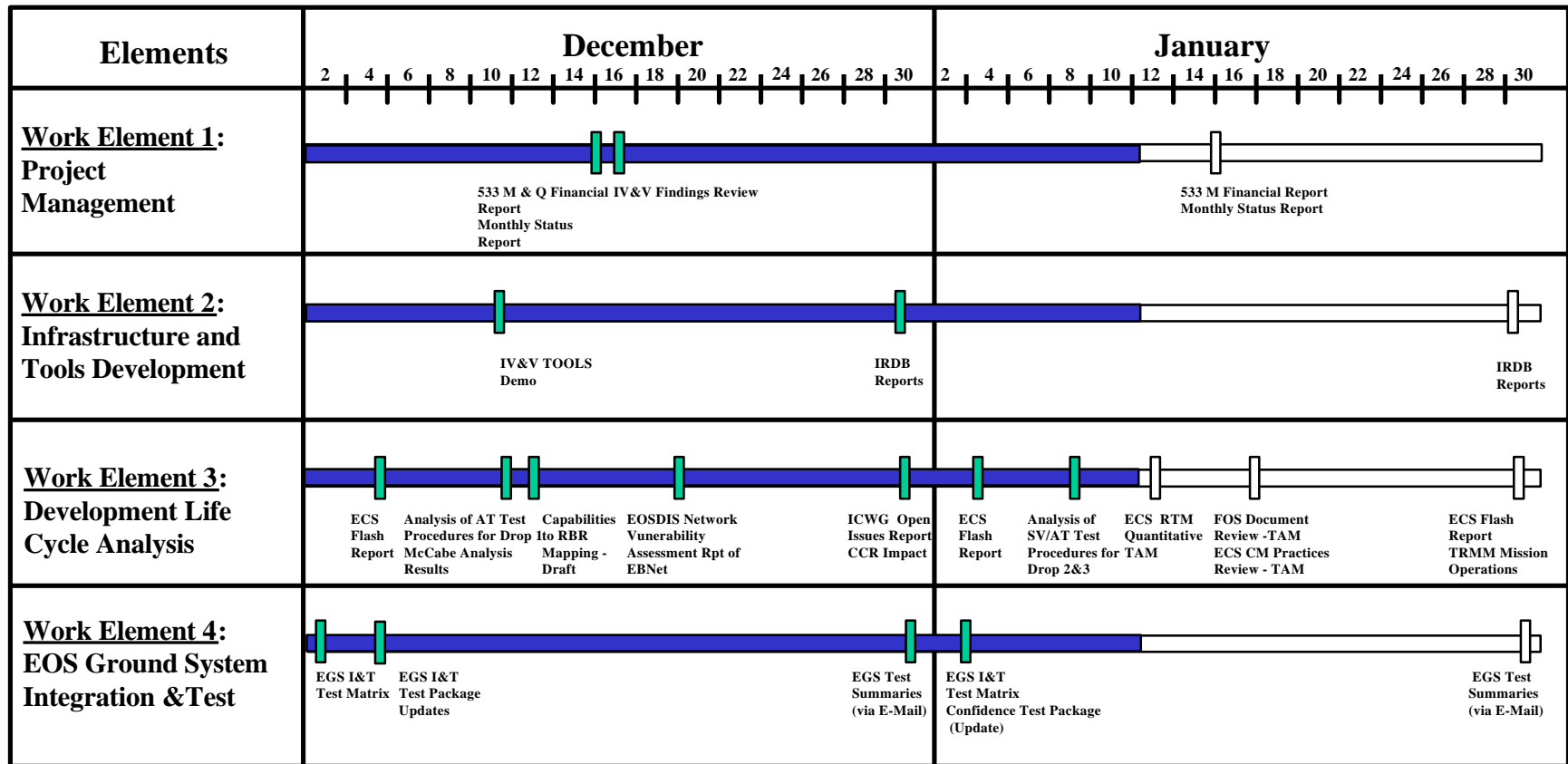


EXHIBIT 1-3: Master Milestone Chart

1.3 Technical Task Information

Work Element #2 Infrastructure and Tool Development

a) Task Accomplishments:

- Performed an EOSDIS IV&V tools demonstration at the NASA Software IV&V Facility on 12/10 (Deliverable 0425 - due date of 12/10). The presentation was well received by attendees. Attendees included EOSDIS IV&V personnel and personnel from other IV&V efforts (e.g. International Space Station) being executed out of the NASA Software IV&V Facility.
- Updated the Integrated Requirements Database (IRDB) and the IRDB homepage on 12/22 to include the 12/17 ECS RTM release from Hughes (Deliverable 0426 - due RTM release + 10 days). During our update process, we detected several orphan requirements which previously had valid traces. This was reported directly to Hughes and a subsequent ECS RTM release was made by Hughes on 24 December to correct the problem.
- Updated the Integrated Requirements Database (IRDB) and IRDB homepage on 12/30 to include the 12/24 ECS RTM release from Hughes (Deliverable 0426 - due RTM release + 10 days).
- Prepared and posted Confidence Test Package documents to web page, updated the indexes, and deleted old versions.
- Improved requirement orphan identification process for IRDB database to include EDOS requirements since the IRDB now includes some EDOS trace information.
- Extracted requirements related data from TMDB tables via SQL query and supplied results to EGS I&T group.
- Assisted Greenbelt users with clean-up activities in the PITS. Problems were identified where TIMs had no author in Analysts table because the originating authors were no longer on the project. Also, assisted in printing since the PITS print is limited to 10 TIMs at a time.
- Modified significantly the TMDB source code and database schema in preparation for release of TMDB version 5.1. Change highlights include:
 - * Modified all the Print functions to accommodate the new Procedures cross table and Testcase cross table.
 - * Modified and re-wrote code for the Tableview screen which reports test results ordered by Test/Requirement, Requirement/Test, or Status/Requirement.
 - * Modified Testcase print capability to include printing of requirement text.
 - * Modified the frmExecution metrics screen of the TMDB to eliminate hardcoded values, utilize the new requirement cross tables, and ensure metrics generated for a selected task were correct.
 - * Continued testing in preparation for release of a new TMDB version.
- Continued M&O activities for the Project Issue Tracking System (PITS), Automated Requirements Database (ARDB), and Test Management Database (TMDB).
- Continued M&O activities for the EOSDIS IV&V homepage, EGS I&T homepage, and PITS WWW Browser homepage.
- Performed general system administration activities such as backups, COTS maintenance, and hardware maintenance as required.
 - * Loaded the latest (10/17) ECS code drop onto Fairmont Sparc server
 - * Implemented plan to migrate cc:Mail messages to IMAP accounts.
 - * Devised email storage policy.
 - * Began Netscape Communicator upgrades to 4.04.
 - * Installed memory upgrade on the Fairmont mail server.

b) Issues/Concerns:

None

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c) Subcontractor Performance:

- EWA performance during this reporting period was good. Areas of performance included:
 - * Maintenance and operations of the Test Management Database (TMDB)
 - * Database maintenance and reporting

d) Planned Activities:

- Complete testing of newly incorporated features and enhancements and release TMDB version 5.1 for use.
- Initiate modification of the TMDB Export and Import functions which interface with MS Access. They previously worked with MS Access version 2.0 (16 bit application). We will determine if it is feasible to get the TMDB (16 bit application) to interface to the newer version of MS Access which is a 32 bit application.
- Interface with element leads to determine any tooling needs or infrastructure changes that fall outside the current action plan.
- Install new RTM baselines as they are received. Produce related reports. Transfer data to ~~ISF~~base databases as required. Incorporate associated updates to the ~~IRDB~~homepage.
- Continue support for database related report generation, maintenance, and data transfer.
- Continue to reconfigure IV&V databases, homepages, and tools as necessary to support EOSDIS IV&V and I&T activities.
- Update Data Management Database (DMDB) information as it is received.
- Perform general maintenance and operations for existing tools and homepages.
- Continue support (refinement, development, and maintenance) for the ARDB, PITS, TVDB, and TMDB client/server tools.
- Perform system administration duties for both LANs, hardware and COTS software as required.

Work Element #3 Life Cycle Development and Analysis/System Engineering Support

a) Task Accomplishments:

Planning & Rapid Analysis Team

- Started the quantitative analysis of the 12/24 ECS RTM baseline. The TAM with the results of this analysis will be delivered 1/12.
- Completed support on mapping between a set of EOSDIS Core System at-launch capabilities (defined by Raytheon) and the ECS Requirements by Release. Documented findings and delivered draft Technical Analysis Memorandum.
- Reviewed the software maintenance documentation for the Flight Operations Segment. A TAM with the results of this review will be delivered in Mid-January.

System & Interfaces Analysis Team

- Received a new ECS requirements baseline on 12/24. Inputs to the quantitative analysis/metrics report were done by the SIA requirements analysis team. The qualitative analysis effort is in progress.
- Provided impact analysis comments on 12 CCRs to interface documents (see attached table). Reviewed draft changes to SCF ICD, in support of CCR preparation. Continuing to track open interface issues and support the Interface Control Working Group (ICWG).

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CCR Review Status

CCR #	Title	Date Rcvd	Cmts Due	CCB Date	Delivery Date	IV&V Lead
505-41-32-007	Make the ECS L7 ICD Consistent with Implementation of the I/F's	11/15/97	12/9/97	12/16/97	12/8/97	Donohue
505-01-30-017	Update the EGS Architecture Diagrams in ESDIS L2 Documents	11/15/97	12/9/97	12/11/97	12/9/97	Imhoff
505-01-30-018	AM-1 Instrument Data Rate Update	11/15/97	12/9/97	12/11/97	12/9/97	Imhoff
505-01-30-019	Add L7 On-Orbit Requirements to ESDIS L2 Documents	11/15/97	12/9/97	12/11/97	12/8/97	Donohue
505-42-01-014	Update LPS Output files DFCB	12/2/97	12/17/97	1/6/98	12/17/97	Donohue
505-01-41-167	Ramp-up of production capacity	12/2/97	12/17/97	1/15/98	12/16/97	Solomon
505-41-34-004A	ERSDAC updates to ECS-ASTER ICD	12/2/97	12/19/97	1/6/98	12/19/97	Imhoff
505-01-35-077	EDOS-EBnet-TGT connectivity details	12/2/97	12/19/97	1/6/98	12/18/97	Jenkins
505-41-34-005	Create two new data product spec. documents from ASTER ICD Appdx D	12/3/97	12/22/97	1/6/98	12/22/97	Imhoff
505-10-13-002	Add voice connections between EOC and IOTs (AM-1 DMR)	12/3/97	12/19/97	1/6/98 1/15/98	12/19/97	Imhoff
505-10-35-003	Remove Kerberos and include ERSDAC comments (AM-1 PDB DFCD)	12/3/97	12/22/97	n/a - withdrawn	n/a	Imhoff
505-41-37-003	Remove Kerberos requirements (ECS-SDVF ICD)	12/3/97	12/22/97	1/6/98	12/19/97	Imhoff
505-42-01-015	Removal of Kerberos Reference (NCCDS-MOC ICD)	12/22/97	12/31/97	1/6/98	12/30/97	Imhoff

EXHIBIT 1-4

System Security Analysis Team

- Conducted the network router assessment of the EBNet.
- The E-NSAT is continuing preparations for the upcoming assessment of AM-1.

Test Analysis and Witnessing Team

- Reviewed of a set of ECS SV/AT Test Procedures for GSFC Drop 1 and EDC Drops 2&3 to assess their maturity, mapping accuracy, and completeness.

ECS Assessment/Flash Report Team

The December Flash Report was delivered on 1/05. The Flash Report highlighted issues with At Launch Capabilities shift, SV/AT Testing, software baseline identification, documentation of changes and FOS documentation.

b) Issues/Concerns:

- ECS testing activities continue to experience schedule problems due to delays in development. It was revealed at the last ECS status meeting that they were approximately two weeks behind the current schedule.

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- IV&V has not been allowed to witness SV/AT Testing currently occurring at ECS, therefore, no independent analysis can be provided. IV&V is scheduled to become involved in test witnessing activities for Drop 3.
- No progress has been made in the ECS review of RTM TAMs.

c) Subcontractor Performance:

- OSC is leading the System and Interfaces Analysis Team. Their technical staff also supports other integrated analysis teams within Work Element 3. Their performance has been very good.
- SES is leading the Test Analysis and Witnessing Team. Their technical staff also supports other integrated analysis teams within Work Element 3. Their performance has been very good.

d) Planned Activities:

Planning & Rapid Analysis Team

- Complete work on the quantitative analysis of 12/24/97 release of RTM and deliver the TAM.
- Continue to work McCabe metrics approach with ECS.
- Finalize TAM on ECS CM practices.
- Complete the evaluation of the FOS design documentation.

System & Interface Analysis Team

- Complete qualitative analysis of the 12/24/97 release of RTM requirements baseline and deliver the TAM.
- Continue CCR reviews and ICWG support.

System Security Analysis Team

- The NSAT (Network Security Analysis Team) has received a request from Mr. Dwyer of Hughes STX to attend a debrief of the IV&V assessment of the V0 system. Mr. Dwyer has stated that his organization was able to derive some valuable information from these tests that he would like to share with Intermetrics, as well as NASA personnel. The meeting is scheduled for 1/12.
- The NSAT will begin coordination efforts with the respective DAACs for the implementation of SAFEsuite testing for AM-1.

Test Analysis and Witnessing Team

- Support upcoming test activities.

ECS Assessment/Flash Report Team

- Continue to review information from across the IV&V efforts for inclusion in the January report.

Work Element #4 EOS Ground System Integration and Test

a) Task Accomplishments:

EGS Version 1 and Version 2 Test Planning:

- TRMM
 - * Participated in joint GSFC DAAC TRMM TSS - TSDIS post-launch testing planning.
 - * Participated in jointLaRC TRMM LATIS post-launch test planning.
- ASTER
 - * Held key role in ASTER test planning, preparation, and coordination with the EDC DAAC and Japan GDS developer.
 - * continued FlightOps (IST) and Science system test development (EGS 6 InstrumentOps test, ICT 14 EOS-ASTER GDS Interface test, EGS 9 Aster ScienceOps test, ICT 11 EDOS -ASTER GDS test).
- AM-1 Joint Test Program
- Working with pre-flight test team/AM-1 test coordination -- Supporting Michael Max in EOS Compatibility Test (ECT) series:
 - * Providing meeting and coordination support.
 - * Drafting test timelines and test information sheets.
- Working on EGS 3/MOSS -2-- Joint Mission Operations Science System & EGS AM-1 Daily Operations Confidence Test (Entire EGS Flight Operations & Science Certification :
 - * Referred to as EGS 3 in the EGS I&T Program Plan.
- Joint DAAC-EGS I&T Science System and Operation Certification Program
 - * Completed Operations Working Group Joint DAAC-EGS test action items.
 - * Continued planning and coordination with GSFC, LaRC, EDC, and NSIDC DAACs on EGS Science System & Operations Certification, per EGS Science Ops Certification Process Document .
 - * Continued development of mission “3 days-in-the life” timeline charts and then cross-reference chart to EGS tests and DAACOps procedures and tests.
 - * Completed first drafts of DAAC specific EGS 11 EGS Performance certification tests.
 - * Initiated first drafts of DAAC specific EGS 10 EGS End-to-end Science Operations certification tests.
 - * Completed EGS Pre-Certification Test Activity Planning and Tracking concept document, obtained DAAC approval, and initiated first drafts of EGS Pre-Certification Test Activity Matrix (for each DAAC).
- Participated in the following meetings:
 - * DAAC Managers Meeting
 - * OWG Meetings & Telecons
 - * ESDIS Ops Readiness Replanning
 - * Flight Ops Test Planning Team
 - * EDOS TOG

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- * Test Management Data Set Working Group
- * DAAC Working Meetings
- Met target date (12/1) to deliver updated EGS I&T confidence test packages
 - * 1112C (periodic), including DAAC comment incorporation.
- Under ESDIS direction, coordinated with instrument teams:
 - * MODIS meeting to plan test data.
 - * MISR coordination through LaRC DAAC.
 - * ASTER.
- Landsat 7 -- MRTT coordination

Integration Schedule Tracking and Analysis:

- Reviewed/revised EGS I&T schedule to support ESDISps Readiness Replan .
- Monitored/revised FOS V2 test schedule to reflect changes in formal EGS I&T testing start date (moved from Dec. 17 to Jan. 5)

Integration Test Tool Definition and Plans:

- Utilized Test Management Data base (TMDB) to determine Interface Tests which track EBnet requirements; closed EBnet action item using same.

EGS Versions 1 and 2 Integration and Test Execution:

- Continuing preliminary tests of FOS Release B with version 2.0.1.
 - * This version has limited capabilities with many open NCRs.
 - * More formal and intensive testing will begin with FOS 2.1.0 in December.
- Initiated interface testing as part of DAAC-EGS Operations Readiness Exercise (OREs)
 - * ECS-EDOS (test package is ICT3 referenced in the EGS I&T test plan – to be executed at GSFC with EDOS).
- Supported TSS, LaTIS, TSDIS, FOS DRB, ETS DRB, EDOS in closing DRs.

b) Issues/Concerns:

- Continued ECS installation slips on overall ORE test planning.
- Schedule Issue -- Mission Certification date is May '98.
 - * Based on current schedule will need to execute test twice -- once for Mission Cert, and again, as a regression test after Science Cert is complete. (S.Lambros is aware and working.)

c) Subcontractor Performance:

- Excellent.

d) Planned Activities:

- Continue to lead EGS Science & Ops Certification Test Planning.
- Continue to participate in ORE testing with DAACs.
- Plan for Work Element 5 ECS Test Support; define and initiate WE-4 personnel transition.

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- Deliver 1112C EGS I&T Program Test Package (Updates).
- Continue L-7, AM-1, Sage III Mission joint test planning .
- Complete monthly metrics, matrix update and ongoing task support activities.

2. FINANCIAL/CONTRACTUAL INFORMATION

2.1 Average Direct Labor Rates

(SUPPRESSED)

2.2 Staffing Profile

Exhibit 2-2 gives a summary view of the number of full-time equivalent employees on the EOSDIS IV&V contract. It provides the staffing profile by task for the previous month, current month, and next month (projected).

In terms of full-time equivalent staff members, the contract supported about 51 personnel in the month of December.

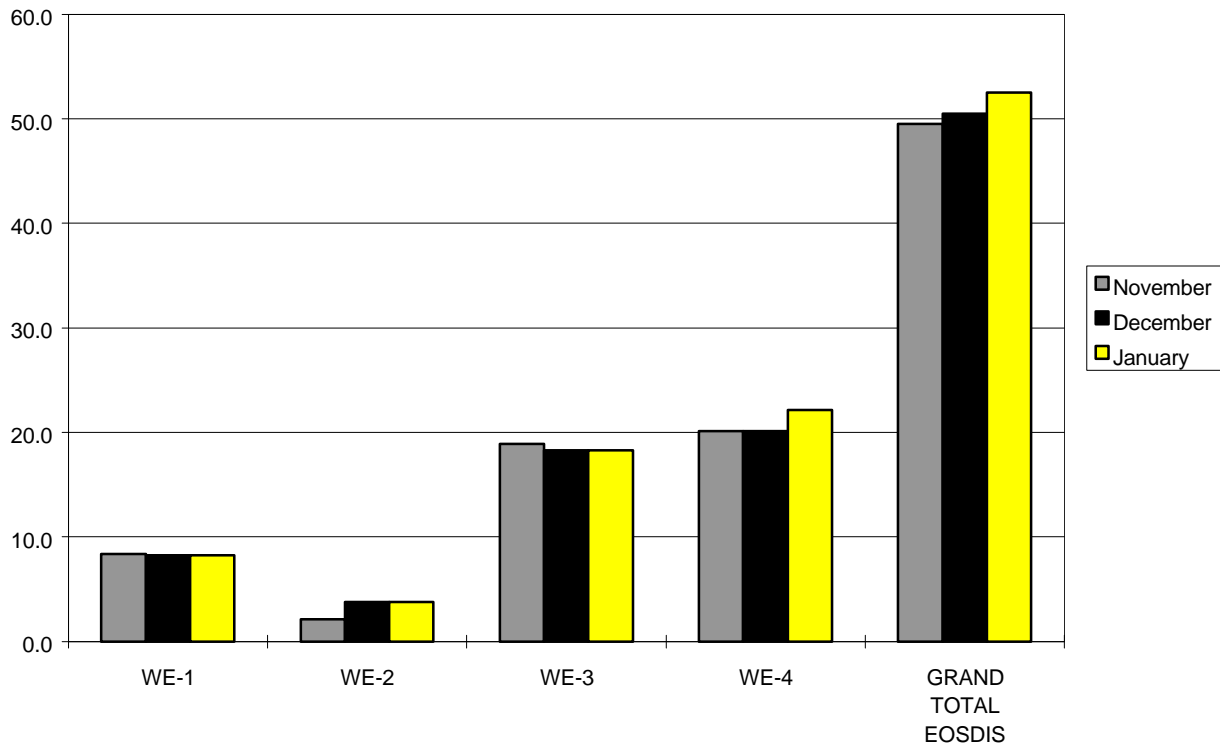


EXHIBIT 2-2: Summary Staffing Profile by Task and Total

2.3 Financial/Contractual Related Issues

- **Test Buddies** - Intermetrics is awaiting the DD1419 for laptop computers requested in support of testing exercises.
- **ECS SDP late delivery impact on PMP, WE-4 EGS I&T** The late delivery of the ECS SDP component has prevented the completion of the WE-4 EGS I&T Program Plan as referenced in the AMP. Formal contract redirection is pending.